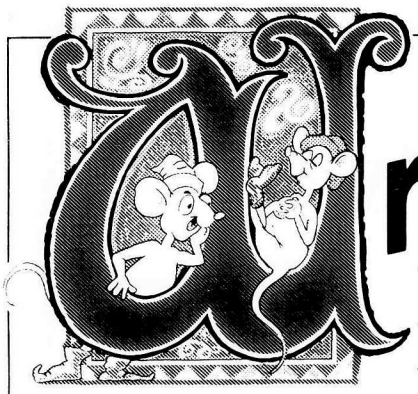
RM User

Volume 5:5
March 1991

The magazine of the RM User Group



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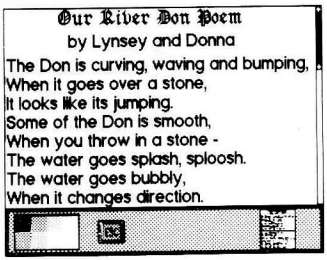
Our River Don Poem
by Lynsey and Donna
The Don is curving, waving and bumping,
When it goes over a stone,
It looks like its jumping.
Some of the Don is smooth,
When you throw in a stone -
The water goes splash, sploosh.
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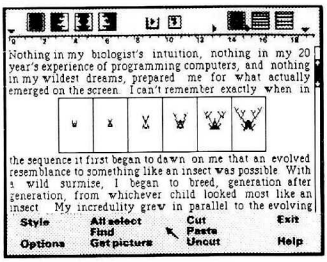
Nothing in my biologist's intuition, nothing in my 20 year's experience of programming computers, and nothing in my wildest dreams, prepared me for what actually emerged on the screen. I can't remember exactly when in
the sequence it first began to dawn on me that an evolved resemblance to something like an insect was possible. With a wild surmise, I began to breed, generation after generation, from whichever child looked most like an insect. My incredulity grew in parallel to the evolving
Style
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Options
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HELP-LINE

The User Group contains a great body of expertise amongst its members and the help-line exists to act as a channel for spreading knowledge and especially answers to your problems.

Remember, your problems are also our problems!

If you are in difficulty, please feel free to **ring anybody on the Committee** (see page 41 for numbers and note that Helen and John Williams have an answering machine. If you're not sure who to phone then leave a message there and they will redirect it). We may not, individually, know the answers, but we hope that we may know someone who does.

You may also telephone Tim Philips on 0284 706623, especially regarding 380Z or PC186 problems and Keith Whiddon on 0403 217339, particularly about Nimbus systems. Both numbers are home numbers. My thanks to Tim and Keith for volunteering.

Do feel free to write either to the Editor or the Secretary. This may be especially useful if the problem is complicated and non-urgent.

Advertising in the Magazine

Full- and half-page advertisements can be placed in the Magazine and details can be obtained from the Advertising Manager (address on Committee Page at back). We also take classified ads and members may place free ads for surplus kit in Micro-Mart, provided a valid membership number is quoted with the ad.

Rates

Back Cover: £75 Inside Cover: £60 Full Page: £50
Half-page: £30 Classified: £5 / 100 words

These rates assume black-on-white, camera-ready copy. Please avoid dot-matrix output. Typesetting is charged at cost and is additional to the above rates. Classified ads **must** be pre-paid, cheques for £5 payable to RM User Group.

The deadlines for the next two issues are: **April 8th 1991 and May 24th 1991**

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Editorial and News

More good news from RM this month. In the last issue I mentioned the price cuts; less than a month later a special issue of Nimbus News arrives detailing more price cuts and, unlike some January sales, RM have reduced the price of their best sellers (rather than the lines no-one wants) and their price cuts are permanent! As an example, the price of a 2Mb PCN1 286 is little more than the equivalent 186 a year ago and for a much higher specified machine. Are RM still giving value for money, though? After all, most manufacturers are cutting prices so how do RM compare? At BETT GoldStar computers were being shown at remarkably low prices. A 286 machine with 40Mb drive, colour VGA monitor and 1Mb of memory is available for £699. By contrast, a 186 Nimbus with 20Mb drive and CGA monitor costs almost £300 more. Is it worth it? I think so for a school, certainly one investing in a network.

When I was last looking at the cost of buying computers for a school, I considered a number of other makes. Some of them were a lot cheaper than RM but none had the same level of network support at anywhere near the same price and none of them offered the same quantity of useful software. Have a look some time at the price of a network card for a PC and add to it the price of a network operating system. Consider the cost of buying software. (You can look in Microsoft's catalogue to get some idea of the price. A ten pack of Excel, a ten pack of Word and a ten pack of Word for Windows costs £2450; RM give a 16 user licence for each of these packages and many others are also included in the price of the server.)

It's also necessary to consider the after sale support offered by RM. There are few other companies who offer unlimited, free telephone support to all customers. You may never have needed to call for help, in which case you might consider that you are paying for something you haven't received but I think that it is best to compare it with insurance. Everyone pays out for insurance and hopes they'll never need it and free telephone support comes in the same category. Remember, also, that the support service extends to third party products; RM will do their best to support products running on their equipment, even if you didn't buy the software from them. The 3 year warranty is another bonus. The only problem with this seems to be the amount of time it takes to get the computers serviced when a warranty claim is necessary. By the time the machine has got back to Oxford, been mended and returned to you, you will have been without it for at least a week and more likely two. I wish that this could be improved. The conclusion seems to be that the price on the box may be lower from other manufacturers but the contents are not the same - RM's are better.

RML is dead, long live RM! Those of us who have been using Research Machines computers for a long time still think of them as RML even though the first Nimbuses launched in 1985 were simply marked RM but it seems we must think this way no longer. RM are now RM plc, a sign of their increasing financial success and, I understand, the beginnings of a move towards the stock market. Another move is taking them away from Oxford. For some years now RM have been scattered in the Oxford area with only a small number of people working at Mill Street. It looks as if the entire staff will finally come back together in one location just outside Oxford.

BETT

If you got to BETT you can't fail to have noticed that Windows 3 has reached a lot of computers and that, or CD ROM, was on a lot of stands. Windows 3 is now available for standalone PC 186 and X/M series machines. The network version is due "real soon now". Some of you who may have seen other manufacturers advertising Windows 3 for networks already, so why aren't RM shipping it? I'm told that the problem lies with a definition of what Microsoft call a network product and what RM call one. Windows 3 **does** run on a network now but ideally only on a station which has its own hard disc which contains the Windows files. The network is then just used as a central store for work files or exchanging data. This is because when Windows 3 starts up it opens a lot of files (depending on how many fonts there are it can be up to 35). If 16 stations try to do this at the same time you rather exceed the 250 file limit on the server! RM are working on ways of improving this. Incidentally, if you do think you want to run Windows 3 on a network and are just about to buy M series machines, make sure that you buy at least 2Mb of memory. The extra megabyte makes the difference in speed between a barely usable system and one which is perfectly acceptable.

Data logging and control were featured strongly on one of RM's stands. This is an area which many schools have not been able to explore either because of cost or lack of knowledge or lack of suitable equipment. The last restriction has now very definitely gone. The Log It range of equipment provides sensors for just about everything that can be measured. They can be used away from the computer to record whatever they are measuring and then the data downloaded later or they can be used in real time, connected to the computer. The controlling software was all running under Windows 3 and was very impressive. This, of course, means that it is very easy to transfer experimental results to other Windows packages.

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The most impressive Windows package at the show had to be Excel version 3. This received its educational launch on RM's stand and it is certainly powerful but also it seems to be accessible. It is, of course, a full blown Windows 3 product. It now has a toolbar like the ribbon in Word for Windows with common functions on it (including SUM; apparently most spreadsheet users use SUM more than any other function, up to about 70% of the time!) It now boasts style sheets to make it easier to present sheets in the same format. It has lots of new graph features, including what look like picotgrams and a lovely "fudge" feature. When you have a chart on screen you can change the size or position of the elements and the numbers in the underlying spreadsheet will change to match. An ideal tool for massaging the results of that science experiment that didn't give the "right" answer! I didn't get time to explore it fully but when I do I'll say more about it.

I'm convinced that Windows applications make a lot of sense in schools (just as they do in industry). You can start using them at a very modest level with young or inexperienced pupils and then progress to the full power as experience grows. Of course, this needs a system which can run Windows at a reasonable speed, hence the need for at least 2Mb on a 286 station and as much memory on the server to use as either disc cache or silicon disc.

Aurora software showed Borealis at the last AGM; at BETT three versions were being shown, Junior, Standard and Gold. They all run on a PC186 and have an amazing range of features. The Gold package allows up to 10 screens to be used for animation (a bit like Art and Time but with everything resident in memory at the same time for greater speed), you can distort and generally mess with bits of the screen, making new brushes or saving bits for clip art. Text support is good and the fills are amazing; not just filling with dithered patterns but using part of a picture to fill in an area. Prices range from £19 for standalone Junior to £228 for all three on a network. Contact Aurora Educational Sofftware on 081 806 1752.

CD ROM

CD ROMs are now available at reasonable prices. Are they worth having? We got our CD server in school just before Christmas (thanks, RM, for a wonderful Christmas present!) and I added a second drive to it this week. So far the most used packages are North Polar Expedition (a sort of adventure game from Virgin, ideal for Personal/Social Education classes, developing teamwork etc). and the Complete Maths Workshop from Top Class Technology. We also got the complete works of Shakespeare, Sherlock Holmes, Birds of America and World Atlas as part of a pack. The first three are alright if you want the contents but they're not very exciting; the atlas is quite interesting and does seem to be used by the pupils.

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The Complete Maths Workshop contains a set of exercises covering the entire GCSE maths syllabus and some samples for A level maths. Each one allows you to print out a worksheet. It then takes you through a tutorial on the relevant topic, asks you to do the worksheet exercises. You are then asked to type in some or all of the answers which are marked and advice given if necessary. Finally, there is a module test on screen which can lead to certificate printing. It seems really useful but it costs nearly £600 so it needs to be used quite a lot if it is to be worth while; its most irritating feature is that the worksheets are designed to fit A4 paper and our printers are fitted with normal 11" paper!

Both the Times and the Independent are available on CD ROM at prices comparable to buying them on paper for a year. The year's subscription brings 4 discs each containing the previous quarter's text, fully indexed but obviously three months out of date. I'm not sure whether this is useful yet. Few schools do much work on research using papers, other than the most recent, partly because of the difficulty of accessing vast quantities of rapidly deteriorating paper. It would certainly be valuable for pupils to acquire good search skills. I'd like to receive your opinions on this subject. One of the problems is that unless the data is more or less permanently available it won't get used and yet unless we buy many more drives it's not going to be possible to have all the discs accessible all the time.

CD ROMs ought to be an ideal source of networkable software. They are absolutely read only so there are no problems with file sharing and yet some of them seem to have been put together in such a way as to make them difficult to network. I'll not name any software (yet!) because it may just be my inexperience that's causing problems with discs which the seller has said are networkable. Not the least of the problems is that the example batch file which RM put on the start up disc simply doesn't work (it checks for the existence of files on drive H: before a connection to it is made!) I understand that RM are going to improve it but why wasn't it tested first? There also seem to be problems with the Opti Net server software. If a user switches off or resets their machine while actually reading data from the server there is a good chance that the server will crash. I know users shouldn't do this but they do and the server should survive.

I've been sent some information about a low cost fax and telex service called Dialcount which just needs a modem attached to your computer. The software is free and there are no subscription charges; you only pay for the messages you send. If you have a fax machine then this may not be useful but if you only occasionally want to use fax then this may be ideal. Contact John Lever at System Services on 076 388 393 for more details.

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Elsewhere in the magazine Paul Bramwell has written about problems with defragmenting a server Winchester. He uses PC Tools version 6. I've just bought this for school and I must say I'm impressed. The most frequently used tool is PC Shell. This allows you to look at a list of all the files on the disc and delete, copy, move and generally fiddle with them. It is very much better than XTree in the way it reads the directory tree. My server has just over 1000 directories and 10 000 files. Reading this using XTree takes a good few minutes (I make a cup of coffee and don't watch it). PC Tools takes the same amount of time the first time you use it but it has a facility to save a copy of the tree structure. This means that the next time you load it, it will pick up this file in seconds. It then looks at the files one directory at a time. At first I thought this would cause problems; what if the directory structure changes? In fact, few users create directories and so the tree tends to stay the same. (You can set PC Shell to re-read the tree once a day, or every few days or however often you want and, of course, you can force it to re-read at any time if you need to).

The compress program seems good but unfortunately it can't cope with the number of files we have so I've not been able to use it on the server. It also has a backup program which is very fast (about 1.5Mb per minute) but it wouldn't work on my server. I phoned Central Point Software, half expecting to be told that because they hadn't yet received my registration card they couldn't help. Instead I got a very helpful man who suspected the problem was due to the vast number of files on the disc and promised to send me the very latest version of the backup program the same day; this he did. I've only had a chance to try it briefly and it seems to work well so I'd just like to say "Well done, Central Point!" I wish all software companies had such excellent support.

If you find you need to write a lot of batch files and have problems then a package called The Builder may be what you need. It changes the very simple controls of DOS into a full programming language which can be compiled. It is available at £73.30 inclusive to User Group members from Scott Ellis Systems (071 925 2336). It offers a lot of nice facilities but I've never really felt any need for them; if you do then this is probably worth a look.

Finally, Question Mark Computing have recently announce Laser Award Maker, a program which allows you to produce a huge variety of certificates etc. provided that you have access to a HP LaserJet or compatible. It costs £149 and Question Mark are on 071 794 9411.

Annual General Meeting & Conference Day
of
The RM User Group

will be held on
Saturday 16 March 1991
at
ILECC
John Ruskin Street London SE5 0PQ
by kind permission of the Director

Programme

10.15 - 10.45	Arrival - coffee and a chance to talk to exhibitors
10.45 - 11.30	AGM
11.30 - 12.15	INFORMATION TECHNOLOGY in the NATIONAL CURRICULUM Roger Whitfield, Director of ILECC
*	Developing IT capability
*	How do resources match with the requirements
*	What strategies do we adopt?
12.15 - 1.00	Presentation by Research Machines plc. The latest news from Oxford and Abingdon and a chance to ask all those questions.
1.00 - 1.45	LUNCH. There is a canteen on site and many local pubs and cafes, or bring your own sandwiches and spend more time exploring some of the 300Mb of software on the User Group server.
1.45 - 4.00	Software, book and equipment fair. Presentations by some of the exhibitors and a chance to try out items you may not have seen before. The principal speaker and RM representatives will be present throughout the afternoon to answer further questions.

Getting there:
ILECC is situated in Kennington, South London and there is ample street parking in the area. The easiest way of reaching the centre is by tube. Take the Northern Line to the Oval. From there walk about 600 yards along Camberwell New Road to John Ruskin Street. ILECC is about 300 yards along.
For further information about the day phone either Ken Maynard on 0438 352467 or Steve Rochford on 091 268 2002. ILECC is on 071 735 9123.

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SD14	The Tempest
SD15	Twelfth Night
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*Flexi*Write

Ken Maynard

*Flexi*WRITE is a low-cost multi-featured word processor for children of all ages. The name may not be immediately familiar; it is actually a much-augmented version of the rightly popular 'Oxfordshire' WRITE - you may already know *Flexi*CAD from the same company. The author used to be the Oxfordshire Adviser for Microelectronics but that job left him no time to respond to teachers' requests to produce or improve the software they needed in schools. He is now a full-time programmer and writer but still with strong educational connections.

*Flexi*WRITE, or FWRITE for short, has all of the previous program's attractive features: ease of use, low cost and small size, that made it suitable for both beginners and the more experienced. The principal additions are a spell-checker, mail-merge, ability to handle accents, multiple printing fonts (up to 96 point) and additional screen displays. These have been incorporated in such a way that anyone familiar with WRITE will notice little difference until he or she starts to explore. Then, the additional function key uses, enhanced printing facilities, overtype, etc. will prove irresistible. Jumbo type on screen and the ability to display black text on a white background have proved useful both to pupils with poor eyesight and for display to the whole class.

Not only will the 'feel' of FWRITE be familiar to previous users of WRITE but it also reads old WRITE files. The earlier program's use of reserved characters to achieve underlining, emboldening, etc. has been changed to more memorable combinations as ALT-U and ALT-B respectively, which display in a distinctive way on screen.

One can pay an awful lot of money for a word processor that may have more features: outlining, multiple columns on screen, style sheets, etc., but these are little-used by the majority since they are never straightforward to achieve. Most school secretaries use only a small sub-set of the available facilities and they spend far more time typing than the average pupil. When choosing a word processor it seems that the more you pay the more you get in the way of features. It is sensible to buy only what you really need, remember most do not come with a site licence, and FWRITE seems to contain all the essentials.

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FWRITE with its new additions now virtually fills a disk but, unlike the big commercial packages, can operate without that disk being present. That is, a hard disk or a network is not essential; FWRITE can be used in its entirety on a single disk system. After loading the program, a disk for work files may be substituted. Even the dictionary is memory resident so that once it has been used it does not access the disk again. It is therefore very quick in operation.

It is interesting to note the pupils' use of the spell checker. Firstly they do use it - without prompting! How many bothered to use the one with MS-WORD before WORD 5? Also, they do understand that it checks only the spelling and not the proper use of words. Lastly, they happily go to the nearest dictionary for words it cannot fathom because they have been too hopelessly contorted. Incidentally, Harrap's Dictionary of English Spelling (1990) is worth having nearby rather than a standard tome cluttered with definitions. This also contains common misspellings, in a different colour, as well as those compounds that use apostrophes and hyphens.

FWRITE works equally well on the Nimbus-186, -286 and -386 ranges, automatically detecting the current mode and changing to 186 mode if necessary. A 'pure' IBM version is imminent and I remind teachers that WRITE for the 380Z and 480Z is still available and that files written by that can be passed straight into either Nimbus WRITE or *Flexi*WRITE if the means for copying between machines is available. All versions of WRITE can generate plain text files that can be read by just about any other word processor or used to write programs or data files.

To sum up, *Flexi*WRITE is an ideal word processor for both primary and secondary schools, and that includes most teacher uses. The exceptions are those people with the money to purchase hard-disk machines and commercial software of their own, and with the need and the time to learn the extra features of such programs.

HARRAP'S Dictionary of English Spelling available in paper, vinyl or hard covers
[paper: ISBN 0-245-60035-3 £4.95]

*Flexi*WRITE, a whole-school word processor from
Flexible Software Ltd., PO Box 100, ABINGDON, Oxon OX13 6PQ. 0865-391148
[Prices (site licence) - stand-alone: £32, network and stand-alone: £64]

INSTAT
A STATISTICS PACKAGE FOR MICRO COMPUTERS

Sheila Maynard

INSTAT is a package which is intended to be useful in the teaching of statistics although it is not an actual teaching package. It could be used with research which requires statistical analysis of data but it has a rather old-fashioned feel. The documentation consists of a Tutorial Guide, an Introductory Guide and a Reference Guide. I felt that the Tutorial Guide could have contained more on the advanced features although the Introductory Guide is quite good. A Demonstration/Tutorial disk is provided. This shows some of the facilities in INSTAT and wisely assumes no computing knowledge on the part of the user.

INSTAT has good Help facilities which are accessed either by pull down menus or by typing Help followed by the command. If you are not sure what the command is that you need then help can be accessed via 'Topics' such as Simple Statistics, Regression and Correlation, Time Series.

It has many built-in facilities, there are the basics such as mean and standard deviation, histograms, stem-and-leaf plots, boxplots and scatter plots. Probability distributions, normal distribution and confidence intervals, analysis of variance, correlation, linear regression, polynomial and weighted regression are all there. Wilcoxon, Kruskal-Wallis, Friedman tests, moving averages, a pseudo-random number generator, random samples and permutations can all be handled. In addition some DOS commands can be accessed from within INSTAT.

The command language is simple to use and it is convenient having to enter only the first three letters of a command, this speeds things up a lot. Data can be typed in line by line or entered into a spreadsheet format making entry reasonably easy. Data can also be entered from an ASCII file which may have been created in an editor or transferred from another package.

Calculations are performed efficiently and all the functions produce their results swiftly. However the graphics are very disappointing, and although, for instance, the scatter diagram shows the minimum, maximum and median values of each set on the axes the labelling of the axes leaves a lot to be desired.

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It can be used as a calculator and contains most of the usual mathematical functions and arithmetical operators. However it would have been convenient to have a built in function for range, perhaps I am over critical here. Mathematical functions can be plotted, with one superimposed on another giving some idea of points of intersection but the low resolution graphics prevent any precision in the interpretation of such graphs.

It is unfortunate that all data has to be coded numerically to be entered into INSTAT, this means that, although columns can be named, rows cannot. It would be helpful if data in which each row relates to a named item could contain the appropriate name.

It is a useful package, it performs calculations rapidly and displays textual and numerical information quickly. But, if you want to use much in the way of graphics it does not exploit the capacity of the RM machines and provides extremely low resolution screens, it is designed to run on IBM PCs with any graphics card. It looks very much like the low resolution displays on the old BBC machines and the large number of files which make up the package also betray its BBC origins.

The package runs on the PC-186, PC-286 and 386. However it can do interesting things to memory, after running it on a 386 I quit and then tried to load WORD to write this review and was told I had insufficient memory. However rebooting solved that.

For further details contact Edhitec, 7 Carlton Road, HARROGATE, North Yorkshire, HG2 8DD.

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Letters to the Editor

19 Kingfisher Court
Woodlands Park
Sheerwater Woking
Surrey GU21 5PT

I am manager of a small children's home and I have been given long term loan of a PC186 with 20Mb hard disc. We have been given some software but we lack the instruction manuals (for the machine, Windows, Word and Excel). If any members can help with these, or with any software for the machine then their help would be greatly appreciated.

D J McKie

17 Loder Avenue
Bretton
Peterborough
Cambridgeshire PE3 8TB

I own a Nimbus PC186 with single disc drive and 1.5Mb of memory. I have a 24pin NEC 2200 printer connected via a parallel piconet interface and Windows version 1.

I have become interested in desktop publishing and have bought NewSPAper which has served its purpose in introducing me to the subject. The hardcopy output, however, is disappointing and I would like to upgrade to a package which will give me better quality print.

So my question is, can you recommend any software packages which give a reasonable level of sophistication and good quality with my setup at a reasonable price (up to £150).

J Edyvane

I sympathise with this problem; what is needed is a package which will use the printer's own fonts for text and use graphics mode only for graphics. PageMaker would do the job but it won't run on the machine and it's too expensive. Avagio from LTS (see their advert on page 22) uses scaleable fonts so should give much better print but I think it needs a hard disc. Does anyone else have any ideas?

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Educational Computer Unit
1010 Ballymoney Road
Ballymena
County Antrim
BT43 5BX

I am developing some software which needs to be able to run in RM mode on 186 and 286 machines. My problem is trying to detect whether the printer is ready. In IBM mode a BIOS function provides this information but this does not work in RM mode. I also want to be able to change the contents of certain interrupt vectors and preserve these changes when the machine changes mode. Does anyone know how I can do either of these?

Luis Garcia.

Micro Mart

For Sale:
1 x RML Chain Network Server with 5.25" double drive, 1 x RML Chain Network Server, 1 x RML 8" double disc drive
Please contact: Mrs S Blower, Technician
North Leamington School, Park Hall, Park Road, Leamington Spa CV32 6LQ
Tel: 0926 338711.

For Sale:
14 station 480Z network. All L5 480Zs with silicon disk and colour hrg. 7 colour monitors and 7 mono monitors. Three printers - 2 dot-matrix and one daisy wheel. Network server stuffed with software. All masters and manuals available.
Also for sale, one stand-alone 480Z and single disk drive. Mono monitor.
All as one lot only. Best offer secures, if unsold.
Please contact: Robin Davies
Heath Park High School, Wolverhampton. 0902-305958

Wanted:
A Nimbus PC186 with hard disc.
Please contact Alan Jamby
London College, Walham Grove Campus, Walham Grove
London SW16 1QR Tel: 071 386 9676 ext 221

Wanted:
Software for the 480z, especially word processor, spreadsheet, database etc.
Please contact Dave Hall on 0865 730954 (home number)

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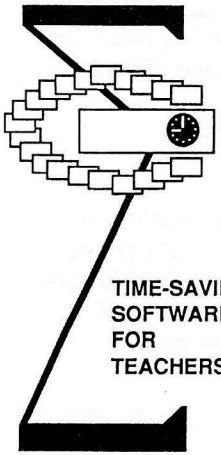

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There must be many networks using versions of the popular GRASS database. Equally, there must be many network managers who are infuriated by the way in which this program copies all its data files to each user's area, as well as the way in which it maintains its own "system" directory file DIR.GSS thus making it that little bit more awkward to give users access to new data files. The following method is one which I have devised in order to make GRASS more "manager friendly".

Our network consists of groups of users, mostly subject or faculty oriented and for the most part with no gateway to MS-DOS. Each such group has MENU.EXE as its command processor with the group's own menu [.MCD] file. It is useful to be able to "direct" such users to subject-specific sample files rather than their being presented with a long list of mostly unwanted ones. In order to accomplish this I have set up the GRASS area in the following way and dispensed with the standard GRASS.BAT batch file.

It is assumed that the GRASS program files reside in the directory P:\GRASS. If not, replace all pathnames below by the appropriate one for your network.

Below P:\GRASS I have created a separate subdirectory for each subject area and copied any subject-related data files to these subdirectories.

e.g.	P:\GRASS\DEFAULT	default .GSS files [eg. MONARCH.GSS etc.]
	P:\GRASS\HISTORY	History-related files
	P:\GRASS\SCIENCE	Science-related files
	. .	
	. .	
	etc.	

As many subdirectories are created as needed but it is vital that <u>each</u> data subdirectory contains a DIR.GSS file specific to that subdirectory.

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The following method may be used to create a DIR.GSS file for each subdirectory:

(i) Create a zero-length file in MS-DOS by:

DEBUG DIR.GSS <Enter>
Ignore the "File not found" error. Press W <Enter>; debug responds with "Writing 0000 bytes". Press Q <Enter> to quit.

(ii) Copy this file to each data subdirectory in turn

(iii) Make each subdirectory in turn your current directory and (first noting the filenames for that subdirectory) run GHEADER.EXE. Once in the GRASS program use the directory utility to add the filenames to DIR.GSS . Quit GRASS and set each file (but NOT DIR.GSS) to read-only.

NB. (a) P:\GRASS will need to be on your path in order to run GHEADER.EXE

(b) Steps (i) and (ii) are necessary because GRASS won't create a blank DIR.GSS file automatically if there isn't one already in the current directory.

To gain access to these files the user menus need to be modified in the following way:

Run CONMENU as usual, loading the appropriate menu file(s). Change the settings for running GRASS to:

Pathname for Program to run **P:\GRASS.BAT**
Command Tail for program **HISTORY** **<— or as appropriate**

All the other settings are left blank.

The batch file works by setting appropriate PATH and APPEND values before searching the user's directory for a DIR.GSS file. If one is found then it is used, otherwise it copies the one from the data subdirectory. Because of this, if you intend to use GRASS in this manner it will (unfortunately) be necessary to delete all DIR.GSS files in user areas since these are unlikely to contain the correct filenames. Deleting these, however, has the side effect of making users' own data files unavailable unless each user subsequently updates their copy of DIR.GSS using the Directory utlilty.

Batch file GRASS.BAT (placed in P:\)

```
echo off
rem
rem Run GRASS from MENU.EXE with variable file libraries
rem
path p:\grass;%dp%
if exist n:dir.gss goto nocopy
:copy
if not "%1"=="" copy p:\grass\%1\dir.gss >nul
:nocopy
append p:\grass;p:\grass\%1 >nul
gheader
path   %dp% >nul
append %da% >nul
```

If you've not seen Grass then it is definitely worth getting a copy from Newman Software (see their advert in this issue). It is much easier to use than Quest to introduce the idea of query languages because you pick the field you want to query from a menu and then the relations from a further menu; it uses terms like *narrow down the search (AND)* so that the Boolean term is introduced at the same time as the English expression. It is capable of generating pie charts and bar charts with ease and these can be printed. They are fairly small which means that they print quickly and can be cut out and stuck in an exercise book.

It has some quirks. It can be used with a mouse or keyboard but the use of a mouse causes problems during network printing. After any printing it is necessary to press CTRL ALT PRTSC; fair enough but the keyboard is ignored while the mouse pointer is active! You need to get to a section where the program is waiting for something to be typed and then press the magic keys. Its use of a file to store the names of all accessible files means that you don't have to remember the name of your file and you can't mistype it but it can cause all sorts of other problems. In particular, on a network unless each user has their own work area, each with its own copy of DIR.GSS then there is a strong likelihood that the directory will be corrupted if two people save at the same time. The file isn't lost; it just isn't shown on the Grass directory and can be put back with the directory utility program.

These are minor gripes, however. On the whole I think it is the best program available for an introductory work on databases. The fact that it is available for 480z and Nimbus makes it an excellent choice for schools using both machines.

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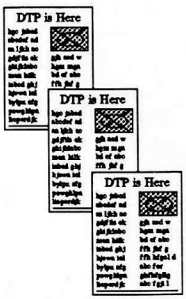

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Spreadsheets with Style

Ken Maynard

Over the years, like many others, I have taught myself to program, word process, use spreadsheets, databases etc. and generally to become conversant with most of the major computing tasks. However, learning the basics of each was just the start and only some time later did I get round to doing these tasks with anything like style.

My first efforts at programming, for example, were wholly concerned with getting things to work; there was no attempt at the time to do them elegantly. Later, when the programs grew in size or were used by somebody else, I started to do things a little better. Nowadays I do use proven procedures wherever possible and try to make the programs readable and their structure obvious. I even write user documentation - when I have time. Similarly with word processing. A dozen years ago I was so pleased to obtain the immediate benefits of the software: ease of editing, neatness of print, multiple copies without carbon paper, etc., that I might even employ spaces and tabs as with a typewriter to achieve the required layout. Of course I soon saw sense and learnt to use the proper commands in order to enjoy the full benefits of the software.

It took me rather longer to get round to adopting a similar professional approach with spreadsheets, probably because I didn't use them constantly but also because nobody ever seemed to mention good practice in this context. I'm sure there is nothing about it in the syllabuses. When constructing small sheets just for myself it hardly seemed worthwhile to document everything and when introducing them to children there just wasn't time. However, schools, like other businesses, are using spreadsheets more and more as management tools for both curricular and financial matters and there are some standard techniques that may not yet be known to everyone.

When a spreadsheet is needed as the basis for decision-making, and especially when it is to be used by someone other than the writer, several design principles immediately become imperative. Principally, the sheet must be capable of being used with confidence. This means it must be easy to understand, manipulate and, of course, as accurate as the initial data will allow.

It should go without saying that the sheet should be planned before typing-in is commenced but there is an amazingly strong temptation to dive straight in and enter columns of figures and formulae to make something happen.

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There should be a written specification of just what is required. For example: *'to be able to measure the effect of increasing the pupil numbers on the overall cost to the school'*. A good specification will enable most aspects of a sheet to be thought out at the start. Decisions can be made about what raw data needs to be entered and how to display the final results. In the above case the principal display would be of the assumed class sizes under various categories and the overall cost in teacher-periods or other resources. The impetuous programmer would fill that first screen with columns of raw data about English and Maths lessons, etc., and the all-important final figures would end up in some remote column.

We would never start a spreadsheet in this random way if the program we were using did not enable us later to move rows and columns to cope with changes of mind. This raises the first essential; we must use a package that has all the features needed. Some cheap programs, or early ones, can now be seen to have serious limitations. They may be adequate to teach the principles but it might be necessary to spend out on something better if these restrictions get in the way of doing real work. Also, functional spreadsheets have a tendency to be large so the capacity and speed of the machine may even have to be taken into account for certain tasks.

The secret to clarity is good user documentation, paragraphs of explanation in the actual spreadsheet where appropriate and an uncluttered working screen. The use of macros can be a great help to enable naive users to interrogate the information easily and to generate the necessary printouts. A spreadsheet usually contains fundamental data, intermediate calculations and results. The calculations should generally be hidden away so as not to detract from the conclusions. The important items, data the user must see: both the fundamental assumptions and their consequences, should be on the first screen if at all possible. The rest may be relegated to some distant area of the sheet that will not display at the same time as the principal figures. The use of a different page or even of a different sheet may be helpful if the facility exists. Another alternative is to 'hide' that work; that is to cause such rows or columns not to display at all, if the feature is there.
Most spreadsheets will consist of several distinct sections. These are probably best thought of as separate pages when at the design stage although they may end up only as separate areas of the same large page if that is all that is available. In that case a block diagram can be helpful. If a spreadsheet is a computer version of something that has existed for many years in book or looseleaf form it will normally be helpful to give the areas names that relate to the old format. 'Navigating' a spreadsheet is vitally important and must be made as obvious as possible. If it can mimic something familiar so much the better.

It is sensible to draw lines on the sheet to make the layout clear and to put a box round any area that is used for 'rough working' in case someone 'tidies it up'.

'Anything that can be calculated <u>should</u> be calculated' is a good maxim. That is, do not enter as separate pieces of raw data two items that are interdependent. For example, in LMS calculations do not enter both scale 'A' *and* an allowance of £927 for a teacher. Enter the 'A' because that will make immediate sense to the reader and use a look-up table to supply the value of that allowance. This also has the benefit of enabling a single change to the table of allowances to affect automatically all the appropriate people. It is obvious how this cuts down the chances of making data-entry errors. Note that the tables of salary scales and allowances have no place alongside the teachers' actual salaries. They should be on a different page, if possible, linked only by the necessary formulae. Such a disciplined approach will limit errors.

Formulae can become very complicated in a real spreadsheet and should be checked before being relied on. In fact they are often best broken into two or three parts to assist checking. Computer programmers will be used to the concept of using carefully devised 'test data'. It is no less important in this context. Figures should be incorporated in drafts of the sheet that generate answers that can be easily checked. All sorts of figures should be used: integers, reals, negatives, zero, etc.- the object is to try all the formulae under all reasonable conditions. It is surprising what errors can surface with this treatment.

Another rule that should be employed is **'if it can be checked then check it'**. Rows of figures are frequently totalled on the right and these row-totals summed to produce a grand total at the bottom right-hand corner. If this were done by hand the final figure would always be checked by summing the columns as well. There is a tendancy to skip this step with a spreadsheet because, it is assumed, the arithmetic cannot be wrong. That may be true but a formula error, spanning the wrong number of columns for example, could cause a difference. To detect such a mistake the 'IF' function can be used. Something of the sort:
IF rowTotal=colTotal THEN PRINT rowTotal ELSE PRINT 'error'
would do but it is usually better to print both totals next to each other if they are different to help trace the error. The 'IF' function can also be used to check whether the content of a cell is within a certain numerical range. Such a formula should be inserted in the cell next to the entered figure to print 'error' if the entry is out of range and to stay blank if all is well.

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Another piece of good practice is to use cell references, preferably names, for key items rather than the actual values. For example, if much of a spreadsheet is subject to modification due to inflation then near the head of the program insert a cell containing an inflation figure, make it 1 initially. Label it 'Inflation Factor' and name it 'INFLATE', say. In every cell that is affected by inflation incorporate the 'INFLATE' factor. Then, when a new figure is needed it has only to be entered in the one marked cell for every linked cell to be affected. Not only is such a technique time-saving and inherently safer than entering an actual figure in lots of different cells but it allows the user to alter the figure with confidence. It ought to be said at this stage that it is vital to lock (protect) all cells but the ones you want to be changed. All formulae should be locked; only basic numbers should ever be left unprotected.

Be proud of your efforts. Ensure that your sheet is titled, that it is clear what it does and how it is laid out. Finally, put your name on it, along with the date. You can expect to be asked about it if it is used by others in earnest. You can also expect to have to add to it as its usefulness is appreciated and it helps if you can remember how it works yourself!

Finally, it might interest readers to know that SuperCalc 5, a multipage (3D) spreadsheet with macros and graphics, very similar to Lotus 1-2-3 release 3, is now on sale for only £79+VAT. This a real bargain for a product of such power and is probably an attempt on the part of Computer Associates to break the virtual Lotus monopoly of the business market.

RM User Group
Annual Training Weekend
Friday October 25 1991 - Sunday October 1991
at
Woolley Hall College, near Wakefield

The User Group is moving away from a hotel this year and into a college, although one with excellent facilities. This has enabled us to keep the price down to £150.

The themes so far proposed for the weekend are:

- Working with Windows 3
- Networking

If you have any ideas for topics you think should be covered or would like further information then please contact Helen Williams on 0789 269533.

NMS 3 - a network management system

Stephen Rochford

I mentioned NMS 3 in the editorial two issues ago. Now seems to be the time for a fuller report.

NMS comes from Richard Naylor at Methodist College, Belfast. Those of you using 480z networks may use the Network Login System which he developed; this is designed to help with the management of a Nimbus network. What does it do? In essence, it provides a replacement for NETMAN which is supplied by RM with all their networks. For many people NETMAN is perfectly adequate so why should you should bother to replace it? The answer will be obvious to those with large numbers of users.

When I first started managing a Nimbus network I had a very small number of users with their own identity and password; most users were encoraged to work using the provided identities (USERA1 etc.) This was satisfactory when few pupils needed to save work for any length of time. For example, if a class came in to do some word processing which was printed before the end of the lesson but did not need keeping then this was fine. As IT developed in the school it became obvious that every user was going to need their own identity; in my school that means over 800 identities to be entered. NETMAN makes entering large numbers of users very difficult (there's an awful lot of pressing F2 and F10 etc. apart from typing in the details of the users) and the reporting facilities are almost negligible. For example, there is no way in which a list of users and their passwords can be generated, nor is it possible to print some kind of card to give to each individual user.

NMS addresses all of these problems and does it well. When you first install NMS it decodes USERS.NET into a set of dBASE III files (asking you for the NETMGR password for some extra security). These are then worked on by the program when you are editing and then re-encoded to produce a new USERS.NET etc. The program provides a menu bar with drop down menus. These allow user, group and public details to be edited, various miscellaneous changes to be made and many reports to be produced.

When you choose to edit a user, for example, you must first type in their name or choose it from a pick list (pick lists are a feature of a number of sections of NMS; they are lists of items through which you can move with the cursor keys.) Assuming the user exists, you are shown a data entry screen. It is not possible to change the user identity but all other fields can be edited freely. NMS adds a field called location to each user which I use to store the pupil's form but could be used for anything.

The password field is automatically filled in for a new user with a password of 6 random letters, chosen from a file of passwords. A new password can be chosen simply by pressing F10. A small niggle here is that the user's name is forced to upper case; necessary for the ID but I prefer a normal mix of lower and upper case for names. You leave all the edit screens by pressing ESC and are offered the choice to Abandon, Edit or Save the details; the default is abandon and I used to forget to press S but you soon get used to it!

The options menu allows you to do things like editing the server boot details and to edit the various text messages displayed to users when they log on. The program has its own built in text editor which works well using WordStar controls but the cursor keys etc. can be used as you would expect.

The reports menu allows a number of different reports to be generated, including lists of all users (very useful for a network manager when someone comes in to work but has forgotten both their user ID and their password!) and labels which can be given to individual users. As I said earlier, the program holds its files in dBASE format so if you have dBASE or a clone then you can easily generate your own reports (Excel, Data Ease and PageMaker which are supplied as standard with the network can all read the files).

If you have a file of pupil names and user IDs in comma delimited form then these can be imported into NMS quite easily, saving a lot of typing.

When you exit from the program there are two choices; exit or encode and exit. The latter is likely to be the normal way out. It quits from the program then re-encodes the dBASE files into USERS.NET so that the next time the server is restarted it will be used. It takes about a minute on my system for this to happen (compared to about 5 minutes for NETMAN to finish) which seems impressive. It's a bit unfair to make this comparison because NMS actually saves data as it goes along whereas NETMAN does not so everything is done right at the end.

I'm impressed with NMS and use it all the time in preference to NETMAN. In fact you really need to do this; although you can stopusing NMS at any time and go back to NETMAN you shouldn't really mix the two. I can't actually see anyone wanting to change back, however. NETMAN is very easy to get started with but I don't think NMS is any more difficult and it has much greater functionality for when it is needed. It seems to be bug free (unlike NETMAN which won't let you put in more than about 600 users at a time!) and I can recommend it wholeheartedly.

NMS is available from EdHitec at £39; a free demo disc is also available. EdHitec are on 0423 871027

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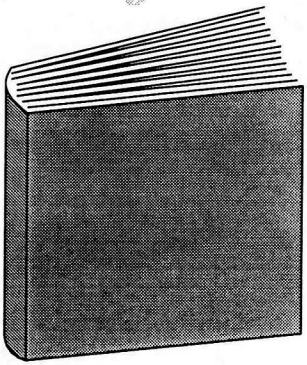
Storyline

The fiction database



We all like a good read, young and old alike. How do we choose a story that suits our moods or our needs? Maybe we have a favourite author, or like adventures, or are mad about cats? *Storyline* might be a help.

Storyline is a database created by children for the use of children. Pupils from a variety of secondary schools collected data on over 700 fiction books which they had read, and all this information has been collected together and made available in a database that can be searched or edited using either *Quest* or *Oriel*.

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A CAUTIONARY TALE

Paul Bramwell

At Samuel Ward we have a fairly simple network system consisting of three servers and close to 60 computers. The entire school is linked via a single network cable. Cabling which runs through the roofing ducts to link classrooms and the two school blocks is low loss and the more normal cable is used in the classrooms. As you might imagine we are pushing our system to its limits both in the length of cable and the number of stations. The network is setup such that, with the use of batch files and 'USE' commands which make the operation transparent to users, pupils can logon at any computer and get work they have previously done at any other station.

With this scenario you get some impression of the amount of traffic on our system and the very heavy usage the network servers get. Like all managers, I hope, I perform regular maintenance such as removing *.bak, *.tmp files etc and deleting files which students no longer need. To help with maintenance I cannot see how I would cope without two pieces of software. I rely heavily on PC Tools Version 6 AND Xtree Pro Gold. If you haven't got at least one of these pieces of software might I suggest they could save hours of your time and either would be worth having (both may be a luxury but my time is valuable and expensive so my headmaster was very happy to purchase both).

Another program I have but rarely use is Norton Utilities. Norton and PC Tools both have utilities for compressing or defragmenting your files. For those who aren't sure of the significance of fragmented files let me briefly explain. When MSDOS saves files it doesn't usually save them in a single piece. Rather, it tries to use spaces left by deleted files. So, if files are saved in bits all over your Winchesters it obviously takes longer for them to be loaded into your computer. On large Winchesters and systems with lots of users the amount of fragmentation can be enormous. Ironically, the more maintenance you do such as removing .BAK files the worse the problem of fragmentation can become. It should be becoming clear to network managers then that it would be a good idea to include in your maintenance program a regular look at the amount of fragmentation on your Winchesters.

Our school network has a mixture of AX servers and the older PC 186 servers. Being IBM compatible the AX server is no problem when it comes to running the utilities from Norton and PC Tools. I regularly run SD (Speed Disk) from Norton and Compress from PC Tools on my AX. Very sensibly both programs warn you to make sure you back the discs up before compressing files

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I have never had any problems but would still recommend a backup before using the programs. However, a cautionary word about the Compress utility from PC Tools.

Compress is, in my opinion, much more sophisticated and powerful than Norton's SD. It offers a range of compression options and will clear unused clusters etc. It also offers the ability to order subdirectories and files by date, filename or extension etc. During the Christmas holidays I compressed the Winchester on my AX/60 server but instead of a simple compress and clear of unused clusters I selected to order files by filename extension. If files are ordered by extension the operating system should be faster at finding them. Because the disc had not been compressed for some weeks the operation took quite some time (about 20-25 minutes). When it was finished I went to reboot the server. Fine, the server rebooted. However, I could not then boot either 186 or 286 stations into the network.

The files to boot stations are found in the \Network\Netx and \Network\Netpc directories. They are normally Hidden, System and Read Only so a simple Dir command will not reveal them. My initial reaction was that these files had been corrupted - a most unlikely event I admit but with my entire network at stake logic is replaced by panic. I used Xtree to look at the files. They were there and had the correct attributes set. I used PC Tools to verify them - no problems. I ran Xverify and Chkdsk on the Winchester and they reported no problems. Even PC Tools' Diskfix utility reported no problem with the disk. It took me some time to realise that while the files were there, they were actually in the wrong order in the directory structure. At least, that was my theory. Unfortunately, I couldn't prove that since even the RMTREE DIR /H doesn't list files in the order they are on disk.

With the help of Customer Support I eventually used RMTREE and the LIST command. (RMTREE LIST /H /P \network*.*). This command lists files in the order they appear on disc (/H allows action on hidden files and /P pages the output). Sure enough, the files were there [the .sys files - 2 of them - need to be at the top of the directory] but in the wrong order. It was a simple job to reinstall the network operating system from the master discs (see you Net 3 managers book) and I didn't need, as I once feared, to reinstall the last backup of the Winchester. So, three pieces of advice:

1. Always keep a backup
2. Please use a file defragmentation program such as SD or Compress.
3. Watch that the operating system files are in the correct place and with the correct attribute settings (Tech support tell me that similar problems have been met with these files having had their attributes changed).

For those of you still using the old PC 186 Servers some good news. Both the SD and Compress programs warn you that no memory resident programs can be used with these utilities. Since the programs are both IBM based and the PC 186 server is not IBM compatible the programs could only be run under the SETPC emulator - which is memory resident. While I cannot guarantee it will work for you I can say with complete confidence that I regularly run SD and Compress under the SETPC emulator and they work perfectly. With over 100Mb on two such Winchesters I need to defragment the disks.

A last word of warning. If you use SD, Compress or any file defragmentation program it will rewrite the FAT (File Allocation Table) for your disc. So, you MUST reboot your computer AS SOON as the utility finishes DO NOT write to the disk without rebooting or you will find the entire contents of your disk scrambled and only a complete reinstallation of programs and files will make it reusable.

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Simply Spreadsheets by R.Keeling and S.Whiteman - a valuable guide as to how to use a spreadsheet in a variety of curriculum applications. Price £6 + £1.20 p&p.

All these programs (except Stylus and Whow) work across a network. The prices above are for single copies (which includes a site licence). LEA licences are available.

Send in your order today or write for further details to Newman Software, Computer Centre, Newman College, Bartley Green, Birmingham B32 3NT (021 476 1181)

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Groups of PageMakers

Robin Davies

I joined the PageMaker User Group last year and, wisely, chickened out of going for the editorship of their monthly magazine. However, I recently attended a regional meeting in Birmingham on style-sheets, no less!

Interestingly, this was held at Apricot and I was mildly amused to see that their mega-overhead computer-linked projector didn't work. We all had to group round a large monitor in rotated groups of 8 or 9 to watch the demo.

Before this we were treated to a stimulating talk on page-layout and design, along with detailed comments on the way you and I read pages - based on research carried out over the years at Liverpool University. The speaker (Graham Jones - PMUG's Technical Officer) made many points on layout and design that are pertinent to all who use PageMaker in our work - whether daily or infrequently.

Reading a page

The most interesting points that were not PageMaker-specific concern the way you and I read printed matter. To put it briefly, we always start by looking at the top, right-hand corner of a page. This has been substantiated in the course of detailed research by which special contact lenses and lights were fixed to volunteers. The apparatus projects a beam of light from - as it were - the eye to the printed page. The movement of this light is recorded and, as I state above, the eye always starts reading from the top, right-hand corner.

As we know, it is very common to scan a page - to glance at it - and we do this in about one-third of a second, from top right (as above) to bottom left.

Apparently, this almost mandatory scanning decides our reaction to the page. If it is properly designed and laid out, we retain our interest, but if the design is poor, we mentally reject it. More of that later, but the teachers amongst us will need to be thinking about the implications for worksheets. Read on!

When, some four years ago, I started using PageMaker seriously (to produce RM User) page-layout and design were low priorities - just getting something on to paper seemed most important! These days design is much more interesting, particularly when a shift in emphasis towards resource-based learning is demanding the production of internally produced learning materials.

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What I can pass on here are not original ideas, but suggestions from more experienced PageMaker users which are food for thought.

Eye rest
In setting out pages, bear the reader in mind. Thus, the optimum line length is around 60 characters. This approximates roughly to three-word phrases.

Give plenty of eye rest; plenty of white space. Use sub-heads; large dropped capitals; illustrations; blobs; boxes. Remember, however, that pictures can confuse the reader.

(I did wonder about that point, but - if Stephen doesn't mind me commenting - there is a good example of this in the last RM User on page 16)

Cross heads (headings in body text) are effective eye resters. Look at newspaper articles for examples of these, particularly where pages of text are set as columns.

Watch the xheight (!). This is the height of the letter x. If the xheight is small compared to the width, then you are creating problems for the reader. A good example is the use of Bookman, which has somewhat squashed characters. Don't use it for body text, but use it effectively for headlines.

Never use auto-leading! (See below).
Have you used a Route Map? Well, we all should. By this, I mean we should ask ourselves - "what is the most important item in the page?". This question then cascades down to the second, third, fourth most important items.

Certainly in Supported Self-Study, a feature of much post-16 work, the material we provide for students should be designed with such questions in mind.

Apparently, page-size is important and A4 is not, from a design point of view, very elegant. A suggested solution is to use large left-hand margins.

Auto-leading
Now it is clear that, to the "professional" PageMaker, auto-leading is akin to auto-death. It is not only "naf" but creates major layout problems - especially when using style-sheets. In particular, it prevents the ranging of text from one page to another. (Ranging is where text at the top & bottom of two consecutive/opposite pages is the same height on the paper).

So "what should you do?", I hear you cry.

Well, set the leading to suit the type-face (not primarily the type-size). This is done as follows.

Measure the width of a lower-case "i" and add to point-size. Eg., 14 Bookman would give a leading of 14/17 if the l-case "i" was 3 points wide.

(This is getting terribly technical, but....)

Set your sub-headings "solid" - eg., 14/14 in the style-sheet and use up space in style-sheet. (More space before the sub-head than after.)

In "Preferences" set vertical ruler to leading lines - ie., if leading is 15, set ruler in custom to that. Then in "Options" set "Snap to ruler.

Don't panic!

This all works, but trial and error are the only way to crack it. Reading the PageMaker Manual helps, but have a look at any one of a number of books on PageMaker for further, practical help.

Don't buy a book yet, unless wealthy, as there will be a new crop of them once PageMaker V4 is released. This is due "real soon"! (February)

To justify or not to justify.

Or as a local printer calls it, ranged right or left. This is a contentious issue. What do readers feel? I understand that some significant reading research suggests that it is easier to read justified text. It's interesting to look at a newspaper like The Guardian. Generally, body text in the main news section is largely justified, but a significant amount of text in the second section is ranged left. Is this variety easier to read?

In my own school, we have just purchased a DTP system (M-series 386 with A3 mono screen & postscript laser printer). One thing that we are going to have to address is the question of a "house style" for worksheets, etc.

Can any readers report on what they do in their own establishments?

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Writing for the magazine

Contributions to the magazine are always welcome; remember that one of the aims of a User Group is to let members help each other in their use of computers. A good way of doing this is to share experiences through the pages of the magazine.

Please don't think that anything you could write would not be of interest to other readers. Although some of our members have been using RM equipment and running networks for many years, there are many more who are just beginning the learning process. What you have just found out this week (and presume every one else knows) may be just what a dozen other people are desperately trying to discover. Why not write in and tell me?

Don't be afraid to phone or write in and ask for help. The committee list is printed on page 41 and you can phone any of those people and ask for help or advice. The person you phone may not be able to give you the answer straight away but they will almost certainly know where to find the information you need and this can then be shared through the magazine as well as being given to you.

If you are writing for me then the ideal is to send in a disc produced using Microsoft Word but if you don't have this (or are not really confident using it) then I can read most other Nimbus word processors. I am also quite happy to accept files on 480z discs (3.5" CDOS or 5.25" CP/M) and would be very pleased to publish information from people who are using 480z (or even 380z) computers.

If you just want to let others know what you think then please do; provocative comments are useful to get people thinking! If you have something amusing to say then this is also acceptable (within reason!)

Diagrams and pictures are also useful; they make the magazine look better and, therefore, easier to read; see Robin Davies' article for more on this!

In short, send me something to publish. Remember we pay £5 per printed page for articles (although payments are at the editor's discretion). Pictures or other graphics are also welcome to cheer up the magazine.

Finally, apologies for the late appearance of this issue and for the mistakes which you may find. I blame it all on the fact that it was produce using a keyboard which has a broken number 8 and a sticking NumLock key!!!

Membership Form

Please use capitals

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I enclose a cheque payable to RMUG ☐ order ☐ for £15 (£20 overseas members). If you are not enclosing a cheque then please enclose an official order, indicating clearly to whom the invoice should be sent.

In order to serve our members better we like to know something about them and what they use their computers to do. The information is confidential and we are registered as Data Users under the Data Protection Act.

Please fill in a number next to the computer names below; the first box is for standalone computers, the second, if present, is for networked machines.

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Please tick the areas in which you are interested.

☐ Word processing	☐ Spreadsheets	☐ Databases	☐ High level languages
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Please tick the best description of yourself or your institution.

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Please send your form to: **Stephen Rochford, RMUG Membership Secretary, George Stephenson Community High School, Southgate, Killingworth, NE12 0SA**

You may photocopy this form if you do not want to cut your magazine.

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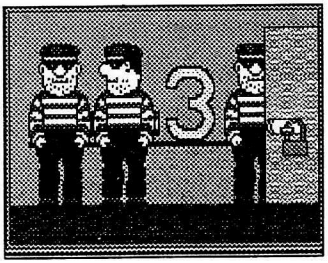

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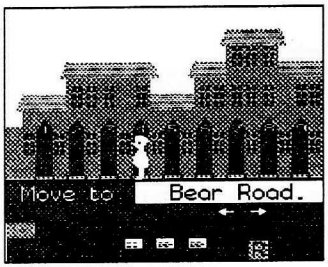

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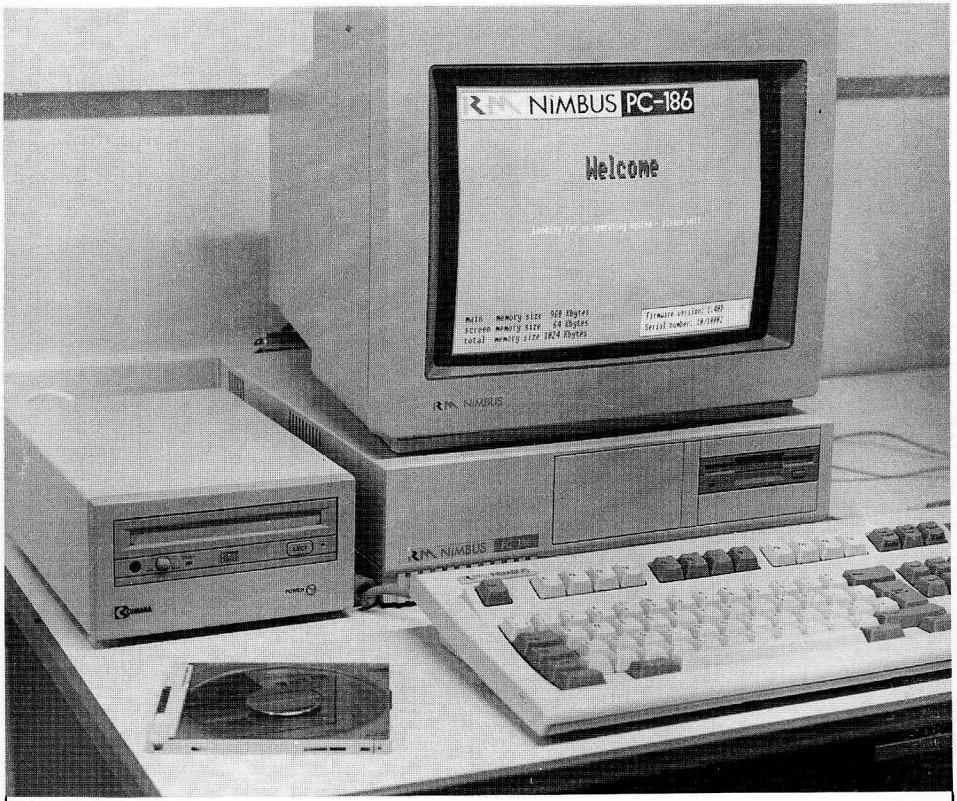

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